

15. (Amended) A liquid crystal display unit as defined in claim 11, characterized in that the percentage of said space within said bonding material is 5% to 70%.

16. (Amended) A liquid crystal display unit as defined in claim 15, characterized in that the percentage of said space within said bonding material is 10% to 30%.

REMARKS

Claims 1-7 are now pending in the application. Minor amendments have been made to the specification and claims to overcome the rejections of the claims under 35 U.S.C. § 112. The amendments to the claims contained herein are of equivalent scope as originally filed and, thus, are not narrowing amendments. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 112

Claims 5, 6, 15 and 16 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed. Notwithstanding, Claims 5, 6, 15 and 16 are amended to recite that "the percentage of said space within said bonding material is". Applicant respectfully submits that the claim language is now definite and the alleged confusion is eliminated.

REJECTION UNDER 35 U.S.C. § 102

Claims 1 and 8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Yamazaki (JP 2133936). This rejection is respectfully traversed.

Claim 1 calls for "a space formed within said bonding material". The Examiner asserts that Yamazaki discloses spaces 7. This is incorrect. Yamazaki discloses a gap material 7. Thus, Yamazaki teaches a spacer rather than the claimed space.

Claim 8 calls for a bonding layer having an action to absorb deformation of a semiconductor device or a substrate. Yamazaki's adhesive 5 is filled with a gap material 7. The gap material 7 controls the spacing between the semi-conductor element 1 and the circuit board 2. Although the gap material 7 in Yamazaki's device enables the internal stress to be dispersed uniformly over the whole semi-conductor element, it does not necessarily "absorb deformation of said semi-conductor device or said substrate". In contrast, the claimed bonding layer (by way of the spaces) absorbs such deformation.

REJECTION UNDER 35 U.S.C. § 103

Claims 2-4, 7, 9 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamazaki in view of Muramatsu (U.S. Pat. No. 5,893,623). This rejection is respectfully traversed.

Regarding claims 2-4 and 7, Applicant respectfully submits that these claims are allowable for at least the same reasons as set forth above with respect to their base claim (claim 1). Note that claims 3 and 4 are amended to employ more traditional apparatus claim language. Regarding claim 9, Applicant respectfully submits that this is

not a product by process type claim. Rather, claim 9 is clearly a method claim. The method calls for an interposing step, a joining step, and a forming step. It should be noted that the forming step relates to a "space" instead of any prior art "spacer". Also, as described in the Specification, it should be appreciated for the purpose of understanding the context of claim 9 and not necessarily for any limitational effect, that the space is formed by the claimed pressing and heating steps. That is, the pressing and heating cause the bonding layer to migrate outwardly thereby forming the spaces. Claim 10 should be allowable for at least the same reasons as set forth above with respect to its base claim (claim 9).

Claims 11-14 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over admitted prior art in view of Yamazaki. This rejection is respectfully traversed.

Independent claims 11 and 17 call for a space formed within a bonding material. As discussed above, Yamazaki does not teach or suggest such a space. Rather, Yamazaki discloses a gap material 7. The gap material serves as a spacer rather than the claimed space. Regarding claims 12-14, Applicant respectfully submits that these claims are allowable for at least the same reasons as set forth above with respect to their base claim (claim 11). Note that claims 13 and 14 are amended to employ more traditional apparatus claim language.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests

that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: DEC. 5, 2001

By: 

G. Gregory Schivley
Reg. No. 27,382
Timothy D. MacIntyre
Reg. No. 42,824

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

ATTACHMENT FOR CLAIM AMENDMENTS

The following is a marked up version of each amended claim in which underlines indicates insertions and brackets indicate deletions.

3. (Amended) A semiconductor device connecting structure as defined in claim 1, characterized in that said space [is constructed by placing] further comprises a plurality of spaces placed closely to each other.

4. (Amended) A semiconductor device connecting structure as defined in claim 1, characterized in that said bonding material is an anisotropic conductive film [formed by dispersing] including conductive particles dispersed into a resin film.

5. (Amended) A semiconductor device connecting structure as defined in claim 1, characterized in that the [rate] percentage of said space [to] within said bonding material is 5% to 70%.

6. (Amended) A semiconductor device connecting structure as defined in claim 5, characterized in that the [rate] percentage of said space [to] within said bonding material is 10% to 30%.

13. (Amended) A liquid crystal display unit as defined in claim 11, characterized in that said space [is constructed by placing] further comprises a plurality of spaces placed closely to each other.

14. (Amended) A liquid crystal display unit as defined in claim 11, characterized in that said bonding material is an anisotropic conductive film [formed by dispersing] including conductive particles dispersed into a resin film.

15. (Amended) A liquid crystal display unit as defined in claim 11, characterized in that the [rate] percentage of said space [to] within said bonding material is 5% to 70%.

16. (Amended) A liquid crystal display unit as defined in claim 15, characterized in that the [rate] percentage of said space [to] within said bonding material is 10% to 30%.